

# Cal/Ecotox

## Exposure Factors for Brown Pelican (*Pelecanus occidentalis*)\*

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Endpoint Type	Endpoint Value	Error	Range	Units	Sex	Life Stage	Location	Note	Reference
Age at Fledging, Metamorphosis, Weaning			74-77	days	NR	Fledgling	FL	a	1
Age at Sexual Maturity	3			yr	NR	Adult	LA	b	2
Body Weight - Mean			3,300-3,500	g	NR	Adult	FL	c	1
Body Weight - Mean	27.6	1.2 SE		g	B	Hatchling	CANADA	d	3
Body Weight - Mean	1698.4	35.2 SE		g	B	Nestling	CANADA	e	3
Body Weight - Mean			45-80	g	NR	Nestling	FL	f	1
Clutch or Litter Size	2.85		2-4	eggs	F	Adult	SC	g	4
Clutch or Litter Size	3.2	0.2 SE		eggs	F	Adult	CANADA	h	3
Clutch or Litter Size	2.16		1-3	eggs	F	Juvenile	SC	i	4
Dietary Composition	northern anchovy, Engraulis mordax (80%)				NR	Nestling	CA	j	5
Fledging or Weaning Rate	2.3	0.2		fledglings/nest	B	Fledgling	CANADA	k	3
Fledging or Weaning Rate			0.18-0.88		NR	Fledgling	CA	l	6
Fledging or Weaning Rate			0.23-1.20		NR	Fledgling	CA	m	6
Food Ingestion Rate			16-18%		NR	Both Adult and Juv.	FL	n	1
Foraging Distance			10.2-49.4	km/day	NR	Juvenile	CA	o	7
Growth Rate	90.5	1.8 SE		g/day	B	Nestling	CANADA	p	3
Growth Rate	see figure				NR	Nestling	FL	q	1
Hatching Success	60.2%				F	Adult	SC	r	4
Hatching Success	2.8	0.2 SE		eggs/nest	B	Hatchling	CANADA	s	3
Hatching Success	57.1%				F	Juvenile	SC	t	4
Metabolic Rate	75		75-76	cal/kg/d	NR	Adult	Lab	u	8
Population Density	0.23	0.23 SE		birds/km^2	B	Both Adult and Juv.	CA	v	9
Survival/ Mortality	94%				NR	Adult	CA	w	10
Survival/ Mortality	69%				NR	Adult	CA	x	10
Time of Migration or Dispersal	early to mid-summer				B	Both Adult and Juv.	CA	y	9

- Notes**
- a range of mean fledging ages over four years; N=7-12 birds/year; March-July; Tarpon Key
  - b age of first nesting; N=13 nests; Age=3 yr; March; Barataria Bay
  - c body weight of captive adult; N=1 bird; March-July; Tarpon Key
  - d hatch weight; N=11 chicks; St. Lawrence estuary
  - e asymptotic weight (40 days); N=65 chicks; St. Lawrence estuary
  - f body weight at hatching; N=47 birds; March-July; Tarpon Key; asymptotic weight reached at about 50 days
  - g mean clutch size; N=89 clutches; Cape Romain National Wildlife Refuge
  - h mean clutch size among successful nests; N=32 nests; St. Lawrence estuary
  - i mean clutch size; N=37 clutches; Cape Romain National Wildlife Refuge
  - j percent of estimated prey biomass, from pre-fledgling regurgitations; N=3 colonies; Southern California Bight
  - k fledging rate among successful nests; N=32 nests; St. Lawrence estuary
  - l range of mean fledging rates (number of fledglings per built nest) over a 6 year period  
; N=76-1258 nests/year; West Anacapa Island; fledging success strongly related to prey biomass and density near the breeding colony
  - m range of mean fledging rates (number of fledglings per built nest) over a 6 year period  
; N=76-1258 nests/year; Isla Coronado Norte; fledging success strongly related to prey biomass and density near the breeding colony
  - n percent of body weight consumed daily during maintenance of adult weight; N=4 birds; March-July; Tarpon Key

- o distance travelled by radiotagged bird; N=1 bird; October; south Monterey Bay
- p growth rate during maximum growth phase; N=65 chicks; St. Lawrence estuary
- q daily growth rates of wild nestlings; N=varied; March-July; Tarpon Key
- r percent of eggs producing downy young in succesful nests (nests producing at least one young); N=133 nests; Cape Romain National Wildlife Refuge
- s proportion of eggs hatched per nest among successful nests; N=32 nests; St. Lawrence estuary
- t percent of eggs producing downy young in succesful nests (nests producing at least one young); N=7 nests; Cape Romain National Wildlife Refuge
- u average basal metabolism (heat production); N=1 bird (3 measurements); Condition=fasted
- v mean density at sea off central and northern coast; N=3 years; central and northern coast
- w estimated survival rate of radiotagged control birds at 150-180 days post-release; N=17; Southern California Bight
- x estimated survival rate of radiotagged rehabilitated oiled birds at 150-180 days post-release; N=16; Condition=rehabilitated oiled birds; Southern California Bight
- y time of northward movement from southern breeding areas; N=3 years; northern and central coast

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